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Prevalence, trauma history, and risk for posttraumatic stress disorder among nulliparous women in maternity care

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Abstract

Objective—To estimate point prevalence and assess the association of types of trauma with posttraumatic stress disorder (PTSD) in a sociodemographically and racially mixed sample of women from both predominantly Medicaid and privately insured settings expecting their first infant.

Methods—Structured telephone diagnostic interview data were analyzed for prevalence of trauma exposure, PTSD, comorbidity, risk behaviors, and treatment-seeking among 1,581 diverse English-speaking nulliparous women.

Results—The overall rate of lifetime PTSD was 20.2%, 17% in the predominantly private-payer settings, 23% in the predominantly public-payer settings. The overall rate of current PTSD was 7.9%, 2.9% and 13.9% respectively. Those with current PTSD were more likely to be African American, pregnant as a teen, living in poverty, with high school education or less, and living in higher crime areas. Adjusted odds of having current PTSD were highest among those whose worst trauma exposure was abuse (OR = 11.9, 95% CI 3.6, 39.9), followed by reproductive trauma (OR = 6.1, 95% CI 1.5, 24.4). Health risk behaviors and exposures were concentrated among those with PTSD.

Conclusion—These findings affirm that PTSD affects pregnant women. Women with PTSD in pregnancy were more like to have had exposures to childhood abuse and prior traumatic reproductive event, to have cumulative sociodemographic risk factors, comorbid depression and anxiety, and to have sought mental health treatment in the past. Obstetric risk behaviors occur more in women with PTSD. Research is needed to assess the effect of PTSD, a potentially modifiable source of perinatal morbidity, on obstetric outcomes.

INTRODUCTION

Posttraumatic stress disorder (PTSD) during pregnancy has been associated with risk behaviors (1), physical complications for the mother (2), lower birth weight (3), shorter gestation (4), and adverse neonatal and neuro-developmental child outcomes (5, 6). Point prevalence of PTSD in the National Women's Study, a representative sample of U.S. women, was 4.6%, with lifetime prevalence of 12.3%, (7). To date, there has been no report of prevalence of PTSD among pregnant U.S. women which has sampled both affluent and poor women. Clinical literature over the past 15 years has suggested that women with histories of child sexual abuse may be most symptomatic with PTSD due to the psychosexual nature of pregnancy, potential intrusive procedures of prenatal care, and the dynamics of relationships with health care providers (8, 9). Yet there are no studies presenting relative risk for PTSD in pregnancy in relation to specific antecedent trauma exposures. Data on relative risk factors for PTSD in pregnancy are needed in order for maternity care to be responsive. This information will also be critical in understanding when PTSD is most likely to be activated and potentially mediating (biologically, behaviorally, and interpersonally), adverse outcomes for mothers and their infants. The purpose of this paper is to estimate the prevalence of lifetime and current PTSD, comorbid conditions, substance use, and mental health treatment use among socioeconomically and racially diverse English-speaking women in prenatal care who are expecting a first infant.

MATERIALS AND METHODS

Data presented are from the first prenatal survey in a longitudinal outcomes study, "Psychobiology of PTSD & Adverse Outcomes of Childbearing" (NIH NR008767; common name "the STACY project"). It is a prospective three-cohort study with a nested case-control analysis of obstetric outcomes. It combines data from three standardized telephone interviews, medical records, salivary cortisol samples, and microarray genotyping. Participants were recruited to the study from eight maternity clinics at three health systems in the Midwestern United States, one serving predominantly privately insured patients in a small university city and two serving predominantly Medicaid recipients in an urban center. Approval for this study was granted by the Institutional Review Boards of the three health systems. Eligible participants were 18 years or older, expecting a first infant, at less than 28 weeks gestation, and able to speak English without an interpreter.

All women who met eligibility criteria from August 2005 through May 2008 were invited to participate in a survey about "stressful things that happen to women, emotions, and pregnancy." Participants were identified by obstetric nurses at initiation of prenatal care. Interested women (n=2689) were given a written information document. Logs were maintained of those eligible, not eligible, those interested, and those who declined (Figure 1). Analysis of missed opportunities was conducted comparing log sheets with clinic appointment schedules. There were more missed opportunities in sites where intake was distributed across the entire nursing staff as opposed to clinics with a single intake nurse, and were thus deemed random, and attributable to the heavier work load of the nurses on busier clinic days.

Follow-up contact was done by a survey research organization (DataStat, Inc. of Ann Arbor, Michigan). A cadre of 13 diverse women experienced with mental health diagnostic telephone surveys conducted the interviews. Ten percent of interviews were monitored live by a supervisor across the study, evaluating quality of the verbal interaction and accuracy of entering responses. Interviewers were never able to reach 758 of the interested women, and another 278 were not actually eligible when the interviewer verified age and parity (Figure 1). Thus 1653 were reached and eligible. At the start of the interview 58 declined. Another 8

interviews were interrupted and not completed. Thus 96% of those reached and apparently eligible ($n=1587$) completed interviews. Of the 1587 completed, 6 were eventually excluded from this analysis ($n=1581$) due to ineligibility discovered upon chart abstraction. Participants were paid \$20 for the initial interview.

Several instruments were used for this analysis, including assessment of lifetime trauma and violence exposure, lifetime and current PTSD symptoms and diagnoses, depression and generalized anxiety diagnoses, substance use, and mental health treatment history. The mean time for interview completion was 32 minutes. Algorithmic scoring by DataStat's computer aided telephone interview (CATI) program differentiated four cohorts: 1) PTSD-positive, defined as trauma-exposed and meeting criteria for lifetime PTSD diagnosis; 2) trauma-positive, defined as trauma-exposed, but negative for lifetime PTSD; 3) non-exposed, defined as neither trauma-exposed nor PTSD-diagnosed; and 4) partial PTSD, characterized as primarily women with trauma exposures or lifetime PTSD symptoms who did not meet DSM-IV criteria (11). We further divide the PTSD-positive cohort to distinguish those with current PTSD as well as those with lifetime, but not current PTSD. We used 29 relevant items from the Life Stressor Checklist (LSC) to assess trauma exposure. To be considered "trauma-exposed," the participant had to either meet the DSM-IV subjective response criterion (10) *or* they had to have disclosed a history of childhood maltreatment. The LSC asks about details of the two worst events. It is considered to have high sensitivity to trauma among women (11). Test-retest reliability has been reported in one study that used a revised and adapted version with 186 participants over a seven day interval. Percent agreement ranged from a low of 79% for illness to 98% for miscarriage (11). We followed disclosure of adult abuse with items from the Abuse Assessment Screen (AAS), a measure specific to violence during pregnancy (12). We used the National Women's Study PTSD Module (NWS-PTSD) to assess PTSD. The NWS-PTSD attained a sensitivity of 0.99 and specificity of 0.79 in comparison with face-to-face, clinician-administered Structured Clinical Interview for DSM-III-R (SCID) (7, 13). It measures all 17 symptoms of PTSD for lifetime and current diagnoses, and assesses distress and impairment. To be considered "PTSD-positive" with the NWS, a person must be "trauma-exposed" (Criterion A), must endorse one intrusive symptom (Criterion B), three numbing or avoidance symptoms (Criterion C), and two hyperarousal symptoms (Criterion D), which have occurred together and lasted more than one month (Criterion E). Past month symptoms yield a current PTSD diagnosis. Comorbid depression and anxiety were assessed using the Composite International Diagnostic Interview short form (CIDI), a structured psychiatric diagnostic tool designed to be used by trained interviewers who are not clinicians. It is supported by extensive field trial data on cross-national reliability and validity (14). The Perinatal Risk Assessment Monitoring Survey (PRAMS), an epidemiological surveillance instrument created by the Centers for Disease Control, was used for assessing income, education, race/ethnic identity, and health risk behaviors, including quantitative assessment of substance use during pregnancy (15). Exposure to crime is an important demographic risk factor for PTSD. This was characterized by the total crime index from the most recent (2000) FBI uniform crime report for each woman's zip code using SimplyMap (accessed 5/20/09). We dichotomized this to higher or lower crime area residence based on her index number's relation to the U.S. average crime rate (16). Mental health treatment was queried with items about therapy and medications prior to pregnancy.

We compared demographic, trauma history, and posttraumatic stress-related psychiatric characteristics, in univariable tests across five mutually exclusive cohorts: non-exposed, trauma-exposed, but PTSD-negative, partial PTSD, lifetime PTSD, and current PTSD. We also considered in detail which characteristics of trauma history were most strongly associated with current symptoms. We then estimated a three-block logistic regression model of risk factors associated with PTSD diagnosis in pregnancy (17). We first entered the

categorical variable for worst trauma exposure type followed by the variable for cumulative sociodemographic risk factors. Finally other factors which could aide in identifying PTSD-affected women were entered: comorbid depression or anxiety and pre-pregnancy mental health service use. Analyses were conducted using statistical software package SPSS 16.0 (SPSS Inc., Chicago, IL.).

RESULTS

Demographic comparisons across cohorts are shown in Table 1. Overall, there were 1,581 participants in the initial prenatal survey. No participants were excluded because there was no missing data on any of the variables used in this analysis. In order to have power after expected attrition for race-specific outcome modeling, we over-sampled African American women, achieving 45% participation. Other minority women included Latinas (4.2%), Asians (7.1%), Native American/Alaska Natives (1.5%), Native Hawaiian/Pacific Islanders (0.4%), and others (3.2%). Table 1 shows a consistent pattern: those with current PTSD are, without exception, the youngest and latest to prenatal care. They are most likely to have socioeconomic risk factors associated with stress and PTSD: being African American, a teen, living in poverty, with high school education or less, and living in a higher than average crime area. They also carry the most cumulative sociodemographic stress (mean = 3.1). The cohort who were trauma-exposed but PTSD-negative has the fewest sociodemographic risk factors (mean = 1.3).

Participants with current PTSD had the greatest mean number of trauma exposures (mean = 9.1; Table 2). Both PTSD diagnosed groups described their worst traumatic event as “extremely troubling” at the time (74% lifetime, 78% current PTSD). However, the group currently meeting diagnostic criteria was significantly more likely to rate the past year impact on as “extremely troubling” (37% versus 20%). The current PTSD group was also significantly more likely to have experienced both of their two worst trauma exposures prior to the age of 16.

Types of trauma exposures were grouped into five categories: family context (e.g., not having enough money for food, family member jailed, having been fostered or adopted), event (e.g., being in an accident, disaster, or war zone), reproductive, which in this study of nulliparous women was limited to “having a difficult time because of an abortion or miscarriage,” abuse (sexual, physical, emotional, or neglect), and “other”, usually left unspecified. The odds of having any one of these types of trauma was higher across all 29 items for the group with current PTSD. Univariable odds ratios (OR) approached one for common exposures (i.e., death of a loved one, OR = 1.3, 95% CI 0.9, 1.8), but were higher for exposures that are more related to pregnancy, such as “having a difficult time because of an abortion or miscarriage” (OR = 3.6, 95% CI 2.4, 5.4), or more psychosexual in nature, such as childhood completed rape (OR = 5.3, 95% CI 3.2, 8.7), and childhood physical abuse (OR = 6.6, 95% CI 4.3, 9.8), emotional abuse (OR = 10.2, 95% CI 6.9, 10.0) and physical neglect (OR = 10.3, 95% CI 6.0, 17.5).

Of the 318 women who had met PTSD diagnostic criteria in their lifetime, 125 met diagnostic criteria at the time of the initial interview, making the prevalence of current PTSD 7.9% (95% CI 6.6%, 9.3%) in this study. Non-exposed and trauma-exposed but PTSD-negative women reported less than one PTSD symptom. Lifetime PTSD-diagnosed women reported a mean of 3.6 symptoms. The currently-diagnosed group had a mean of 10 symptoms. Six are required to meet diagnostic criteria, suggesting this group was highly symptomatic.

Some traumatized individuals may turn to substance abuse as a way to manage their symptoms of PTSD (18). Pregnancy cigarette and illicit drug use occurred in a dose-response pattern with PTSD severity. Alcohol use also followed this trend, but use of “any” alcohol (defined as one drink or more per week) was not significantly different across the groups.

Women experiencing intimate partner violence are concentrated (86%) in the PTSD-affected groups. Fifty-two percent of past year incidence of IPV occurred in the PTSD-diagnosed groups. Another 34% of IPV cases occurred among those with partial PTSD.

Major depressive disorder (MDD) was rare among women who did not have PTSD. The rate of MDD diagnosis in the overall sample was 12.3%, consistent with other perinatal studies (19). Among women without PTSD, rates were low (3.4% among non-exposed, 4.7% among trauma-exposed but PTSD-negative). However, the rates of MDD in the lifetime and current PTSD groups were 27% and 35% respectively. Thus 84.5% of prenatal MDD cases were comorbid with full or partial PTSD; 50% were in the PTSD-diagnosed categories, and another 34.5% are in the group with partial PTSD. Generalized anxiety disorder (GAD) occurred in this pattern as well, from 0.3% (non-exposed) to 14.4% (current PTSD).

Current PTSD was associated with reporting of impairment and distress, 41.2% in school and work, 76.5% in family functioning, with 52.9% considering their symptoms very distressing. Only 3 women with current PTSD reported minimal distress or impairment.

Those whose PTSD had remitted (i.e., lifetime cases), had higher rates of mental health treatment than current cases. Compared with the non-exposed cohort's use of mental health services (13.7%), the trauma-exposed but PTSD-negative cohort had used treatment twice as much (28.2%), those with current PTSD three times as much (41.6%), and those with lifetime PTSD had remitted had been four times as likely to have used treatment (60.8%; $X^2 = 136.8$, $df = 4$, $p < .001$).

We considered the question of which factors increased risk for meeting diagnostic criteria for PTSD in early pregnancy by a logistic regression model (Table 3). The first block of the logistic regression model focused on the association of a mutually-exclusive six-category trauma history variable to answer the research question, “Which *worst* trauma exposures are predictive of PTSD diagnosis during early pregnancy?” The reference category is a sixth category of women who reported no trauma, or who reported an exposure, but who declined to state any trauma was “worst” because they did not consider any trauma very severe. The amount of variance explained in this logistic regression model per Nagelkerke R squared (17) was 9.9%. The most predictive category in this unadjusted block was abuse (OR = 24.5, 95% CI 7.5, 80.0), followed by ‘having a difficult time due to an abortion or miscarriage’ (OR = 11.9, 95% CI 3.1, 46.3). The second block added the cumulative sociodemographic risk factor variable. This factor increased the amount of variance explained to 16.6%. Each accumulated risk increased odds of PTSD diagnosis during pregnancy by 40% (OR = 1.4, 95% CI 1.3, 1.6). In the third block, we entered additional factors that maternity care providers could learn about by clinical interview (i.e., history of using mental health services) or by screening (i.e., depression and anxiety). These variables were significantly associated with current PTSD diagnosis and increased the variance explained by the overall model to 23.6%.

DISCUSSION

The lifetime PTSD prevalence for women in this study was 20.2%. Current prevalence was 7.9%. These rates are higher than the 12.3% lifetime and 4.6% current prevalence rates within the U.S. general population of women found using the same NWS -PTSD measure

(7). Although trauma and PTSD occurred across the socioeconomic continuum, women in the urban, predominantly public-payer sites had more cumulative trauma exposures and were less likely to have recovered from PTSD. Health risk behaviors associated with poor obstetric outcomes were concentrated among the PTSD-affected women, including substance use, intimate partner violence, and late prenatal care. Depression also was concentrated in the PTSD-affected groups. 84.5% of MDD cases co-occurred with partial, lifetime, or current PTSD. A longitudinal study conducted in the same urban center verified that MDD onset most frequently occurs after PTSD onset (20). These findings suggest a need to extend screening beyond abuse history and depression to include posttraumatic stress disorder. PTSD may be a unifying construct; trauma-informed interventions may be more effective than substance use, primary depression, and domestic violence interventions applied separately and without consideration of the traumatic stress etiology (21). As many as 76.5% of women with PTSD reported impairment in family functioning. This raises concerns about the extent to which PTSD-affected women may lack instrumental and emotional social support as they start to fulfill the mothering role in the potentially stressful postpartum period.

Use of mental health services in the past was associated with having recovered from PTSD. Women with current PTSD had used less treatment prior to pregnancy. Higher rates of treatment may have facilitated recovery or prevented development of the full syndrome, but it is not possible to verify this with the cross-sectional nature of this data. Screening and referring for PTSD for those meeting current diagnostic criteria may be warranted. Using the Cochran review of the evidence base for PTSD treatment (21) the number needed to treat (NNT) profile for remission of PTSD by psychotherapy (NNT = 3) or medication (NNT = 5) generally is favorable. We estimated a number needed to screen (NNS; calculated as NNT/prevalence of untreated disease; 22). Of the 125 women with PTSD in pregnancy, 16 were currently in psychotherapy or using medication, so the untreated prevalence is 7% of the sample of 1,581. Using psychotherapy as the frontline treatment during pregnancy, the NNS (3/.07) is 43. Thus, 43 women would need to be screened to have one case treated with psychotherapy remit. Validated primary care screening tools, available via www.ncptsd.va.gov/assessment/screening, range from 4 to 17 items, similar to tools commonly used to screen for perinatal depression. This NNS estimate is conservative because we do not know if the treated women in our sample were accurately diagnosed or if they were receiving an evidence-based treatment for PTSD.

There are several limitations of this study. First, although we used gold standard validated epidemiological measures (8, 16), we did not repeat validation for our project. Second, we were not able to compare this sample with those who were eligible but where the opportunity to recruit was missed, who were not reached, or who declined. Sensitivity analysis (23) indicates that if all those who declined had been PTSD-positive, the upper limit of point prevalence would have been 39.0%. If they had been PTSD-negative, the lower limit of point prevalence would have been 5.2%. Thus, our 7.9% prevalence estimate, which has a 95% CI from 6.6% to 9.3%, is reasonably conservative. Also, it is a limitation that the urban and small city sites were different in terms of their relative proportion of publicly- and privately-insured patients. This situation occurs in many U.S. locations, however, and the findings for the respective sites can inform clinical care tailored to the needs of diverse clinical service characteristics. Finally, the data presented here are from the first wave of data collection and so are cross-sectional in nature, limiting our ability to know temporal order of onset of comorbidities.

There also are strengths. The use of the National Women's Study PTSD module for diagnosis allows comparison with a nationally representative epidemiological study. Use of standardized interviews avoids the potential biases in clinical interviews. Data collection

using telephone methods outside the clinical setting may also be a strength, to the extent that women are more likely to disclose sensitive information that is kept separate from their medical record and protected by a certificate of confidentiality. Remote modalities also have lower rates of participant distress than is reported in face-to-face diagnostic procedures (24). The ability to compare PTSD-affected women with both trauma-exposed and non-exposed controls is a useful design for distinguishing which associations are related to trauma generally and which are specific to PTSD. The sample is large, diverse, and generalizable, especially within predominantly public- and predominantly private-payer settings.

There already are numerous studies and reviews estimating the significant adverse effects of abuse trauma and PTSD on lifespan health (e.g., 25). Outcomes research is needed to comprehensively estimate the effects of PTSD on obstetric and neonatal, as well as postpartum mental health and attachment outcomes for affected gravidas. It may be that targeted trauma-informed support services and programs would decrease the woman's posttraumatic stress morbidity, improve her experience of maternity care, and improve outcomes for her and her infant. The complex intersections of family situations where abuse is a factor may also create a need for supplemented service delivery, including maternal support services by nurses, social workers, or outreach workers, potentially also including support group and companion recovery models (e.g., 26) which would provide an advocate outside of the family, such as a doula, for women who may be experiencing distress within their family context. Our results indicate that 3% to 14% have current PTSD as they enter into prenatal care. As the health implications of PTSD for childbearing women become more defined, the development of trauma-informed mental health screening, psychosocial support programs, and PTSD-specific referral resources may represent new avenues for improving perinatal outcomes.

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Table 1
Demographic profile showing relationship of demographics and site trauma exposure and PTSD morbidity

Total	Non-Exposed 22.1%(350)	Trauma-exposed 24.0%(380)	Partial PTSD 33.6%(532)	Lifetime PTSD 12.3%(194)	Current PTSD 7.9%(125)	Statistic	p
Individual factors in risk index	% (n)	% (n)	% (n)	% (n)	% (n)		
African-American*	42 (147)	33.4 (127)	49.8 (265)	39.2 (76)	75.2 (94)	X ² =75.6	<.001
Teen	24.3 (85)	15.3 (58)	28.4 (151)	18.6 (36)	37.6 (47)	X ² =37.5	<.001
Poverty	18.9 (66)	17.4 (66)	23.5 (125)	22.7 (44)	44.8 (56)	X ² =44.2	<.001
Secondary education or less	46.6 (163)	33.9 (129)	49.6 (264)	40.7 (79)	76.8 (96)	X ² =74.9	<.001
>US average crime rate	40.6 (142)	29.2 (111)	45.5 (242)	34.0 (66)	67.2 (84)	X ² =65.7	<.001
Cumulative risk factors**	% (n)	% (n)	% (n)	% (n)	% (n)	X ² =1282	<.001
0 risk factors	22.6 (148)	31.6 (207)	30.7 (201)	13.6 (89)	1.5 (10)		
1 risk factor	26.1 (42)	23.6 (38)	32.9 (53)	12.4 (20)	5.0 (8)		
2 risk factors	15.4 (20)	23.1 (30)	30.0 (39)	19.2 (25)	12.3 (16)		
3 risk factors	25.1 (49)	16.9 (33)	32.8 (64)	10.3 (20)	14.9 (29)		
4 risk factors	20.7 (62)	15.7 (47)	42.0 (126)	7.7 (23)	14.0 (42)		
5 risk factors	20.7 (29)	17.9 (25)	35.0 (49)	12.1 (17)	14.3 (20)		
Mean number of risk factors	Mean(SD)	Mean(SD)	Mean(SD)	Mean(SD)	Mean(SD)		
Other descriptors	1.8 (1.8)	1.3 (1.7)	2.0 (1.9)	1.6 (1.8)	3.1 (1.4)	F=26.7	<.001
Age in years at interview	25.59 (5.6)	27.46 (5.7)	25.54 (6.0)	27.20 (6.2)	22.92 (4.7)	F=18.4	<.001
Gestational age at interview	14.26 (5.9)	13.11 (5.1)	14.50 (7.2)	14.01 (7.0)	15.88 (6.8)	F=-5.3	<.001
Sites	% (n)	% (n)	% (n)	% (n)	% (n)	X ² =94.8	<.001
Small city prenatal clinics	22.3 (189)	29.4 (250)	31.2 (265)	14.4 (122)	2.7 (23)		
Urban prenatal clinics	22.0 (130)	17.8 (130)	36.5 (267)	9.8 (72)	13.9 (102)		

* Analyses in this study focus on African-American (44.8%, $n = 709$) and European-Americans (45.9%, $n = 725$). Other racial & ethnic identities, including Latina (4.2%, $n = 67$), Asian (7.1%, $n = 113$), Other (3.2%, $n = 51$), Middle Eastern (2.3%, $n = 36$), American Indian or Alaska Native (1.5%, $n = 23$), Native Hawaiian or Pacific Islander (0.4%, $n = 7$) did not differ significantly in their risk for PTSD.

** This is a cumulative index computed as the sum of five individual risk factors for PTSD: being African- American, a teen, living in poverty, having less than or equal to high school education, and residence in a high crime area.

Table 2

Trauma profile and prior treatment

	Non-exposed 22.1% (350)	Trauma-exposed 24.0% (380)	Partial PTSD 33.6% (532)	Lifetime PTSD 12.3% (194)	Current PTSD 7.9% (125)	Statistic	p
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)		
Sum of traumas	1.8 (1.9)	4.0 (2.2)	5.0 (2.9)	7.5 (3.7)	9.1 (4.4)	F=216.222	<.001
	%(n)	%(n)	%(n)	%(n)	%(n)		
Age period at worst exposure						X ² =283.9	<.001
Both in childhood	23.7 (83)	27.6 (105)	24.1 (128)	25.3 (49)	31.2 (39)		
One event each period	16.9 (59)	37.9 (144)	38.0 (202)	39.2 (76)	37.6 (47)		
Both in adulthood	34.6 (121)	34.5 (131)	35.3 (188)	35.6 (69)	31.2 (39)		
No worst trauma	24.9 (87)*	0**	2.6 (14)	0**	0**		
Worst trauma was "extremely troubling"	33.1 (87)	64.2 (244)	63.7 (330)	74.2 (144)	77.6 (97)	X ² =141.6	<.001
Worst trauma affected life in past year	3.4 (9)	4.2 (16)	10.8 (56)	19.6 (38)	36.8 (46)	X ² =218.4	<.001
Prior mental health treatment	13.7 (48)	28.2 (107)	34.4 (183)	60.8 (118)	41.6 (52)	X ² =136.8	<.001

* The "non-exposed" cohort includes women who reported a trauma occurred but (1) they did *not* experience "fear, helplessness, or horror" per the DSM-IV criterion A2 or (2) their trauma was not childhood abuse.

** These cohorts definitions included trauma exposure that (1) met the DSM-IV criterion A2 or (2) was childhood abuse (regardless of the A2 criterion).

Table 3

Stepwise logistic regression model of risk factors for meeting diagnostic criteria for current PTSD during pregnancy including worst antecedent trauma, cumulative SES risk factors, previous mental health treatment, and comorbidity (n=1581).

Block 1: Model X2 = 68.259, df = 5, p < .001 Nagelkerke R square = .099				
			95.0% C.I. for EXP(B)	
	Sig.	Exp(B)	Lower	Upper
Worst trauma type	.000			
Family context	.001	6.929	2.148	22.354
Events	.007	5.977	1.644	21.725
Reproductive	.000	11.937	3.080	46.262
Abuse	.000	24.544	7.527	80.039
Other	.018	7.231	1.410	37.088
Constant	.000	.011		
Block 2: Model X2 = 115.376, df = 6, p < .001; Block X2 = 47.125, df = 1, p < .001 Nagelkerke R square = .166				
			95.0% C.I. for EXP(B)	
	Sig.	Exp(B)	Lower	Upper
Worst trauma type	.000			
Family context	.008	4.930	1.516	16.029
Events	.020	4.661	1.271	17.092
Reproductive	.001	9.357	2.385	36.702
Abuse	.000	17.789	5.408	58.514
Other	.010	8.637	1.661	44.920
Cumulative SES risk factors	.000	1.445	1.294	1.613
Constant	.000	.006		
Block 3: Model X2 = 167.103, df = 9, p < .001; Block X2 = 51.728, df = 3, p < .001 Nagelkerke R square = .236				
			95.0% C.I. for EXP(B)	
	Sig.	Exp(B)	Lower	Upper
Worst trauma type	.000			
Family context	.028	3.804	1.155	12.524
Events	.084	3.214	.856	12.063
Reproductive	.011	6.059	1.504	24.409
Abuse	.000	11.904	3.555	39.858
Other	.032	6.376	1.178	34.516
Cumulative SES risk factors	.000	1.549	1.369	1.752
Previous therapy or medication	.013	1.776	1.131	2.787
Depression diagnosis	.000	3.139	2.010	4.903

Block 1: Model X2 = 68.259, df = 5, p < .001 Nagelkerke R square = .099				
	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
			Lower	Upper
Generalized Anxiety diagnosis	.001	3.025	1.558	5.872
Constant	.000	.004		

* Worst trauma type is a categorical variable with no worst trauma as the reference category.